# Statistical Outliers Report

2021 Report to the 112th Tennessee General Assembly

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## Introduction

As directed by the Tennessee General Assembly in Tennessee Code Annotated § 68-1-128, the Department of Health (TDH) has identified 142 statistical outlier prescribers. This report will provide information breaking down the licensure type and the status of complaints against these individuals.

## Methodology

The statistical outlier prescriber list produced by TDH for this report was designed to mirror the methods used in the Comptroller's Office of Research and Education Accountability (OREA) report published for the legislature in January 2020. The TDH analyst received statistical programming files and notes directly from the OREA analyst for this purpose. The TDH analyst applied similar logic, where possible, to identify outliers using 2019 prescribing data from the Controlled Substance Monitoring Database (CSMD). The data includes outliers identified among physicians, podiatrists, dentists, advanced practice registered nurses (APRN), and physician assistants who prescribed opioids in 2019.

Prescribers were classified by profession using classification information linked to their National Provider Identifier (NPI) registration and their TN Licensure and Regulatory System (LARS) information, where available. For most prescribers, LARS data was the primary source of profession, and NPI classifications were used if LARS data was unavailable. All prescriber's prescriptions reported to the CSMD in 2019 were aggregated and used to calculate each prescriber's values on a number of prescribing metrics. Many of these metrics were further aggregated at the patient level to identify outliers.

As in the OREA report, outliers were identified along five dimensions:

1) Long term opioid prescriptions – Number and percent of patients who filled one hundred eighty (180) or more days of opioid prescriptions;

2) High dose opioid prescriptions – Number and percent of patients who filled at least one prescription of ninety (90) morphine milligram daily equivalents or greater;

3) Overlapping opioid and benzodiazepine prescriptions – Number of patients who filled an opioid prescription that was concurrent with a benzodiazepine prescription;

4) Concurrent opioid prescriptions – Number of patients who filled an opioid prescription that was concurrent with another opioid prescription;

5) Average daily milligrams of buprenorphine – Calculated for all buprenorphine prescriptions for drugs FDA-indicated for the treatment of opioid use disorders.

The method of identifying outliers along these dimensions was nearly identical to the method described in the OREA report. A cutoff value was defined for each metric based on distance from the middle 50% of the values for all prescribers. Prescribers exceeding the cutoff value on a metric were considered outliers. In many cases, large numbers of outliers were identified, numbering in the hundreds or thousands. To reduce those numbers to more manageable amounts for further review, the OREA analyst used several data reduction techniques such as identifying the outliers across two metrics (i.e., number and percent of

patients), calculating the outliers of the outliers, and in some cases using judgment on outliers that appeared to be far outside the norm (but not past the cutoff). After going through this process, prescribers identified as outliers along any one of these dimensions were included on the final lists provided to HLR.

For more detailed information regarding outlier identification, the OREA report describes the methods at length and can be found athttps://comptroller.tn.gov/content/dam/cot/orea/advanced-search/2020/OpioidWebsite.pdf

## Process

The Department of Health Office of Investigations receives complaints against licensed health care practitioners. The investigation process is a complaint-driven system; therefore, many practitioners never have a complaint filed against them and therefore, they are never investigated. Complaints that are received by the Office of Investigations are sorted by licensure type and allegation category and reviewed by a consultant who is a member of the same profession. That consultant represents the licensing board in the review of the complaint.

The consultant(s) for each board, attorneys from the Office of General Counsel, and investigators from the Office of Investigations, review, investigate, and determine whether a practitioner has violated his or her practice act, which include the statutes and rules governing his or her professional practice in the state. Once an investigation is completed, the matter will be concluded with either no action, a private censure, or a referral for public discipline. Information gathered during the investigation may indicate that despite the complaint, there is no practice act violation or that there is insufficient evidence to prove a practice act violation. When the information gathered during the investigation raises concern regarding a practitioner's behavior, the practitioner may be issued a private censure in the form of a Letter of Concern or a Letter of Warning.

These letters are intended to educate and correct conduct, often including appropriate coursework or actions a practitioner can take to assist in correcting the behavior. When an investigation indicates a violation of the practice act for which a board would take public disciplinary action, the matter is referred to the Office of General Counsel for formal discipline. The practitioner is entitled to a pre-filing notice of the conduct for which the Office of General Counsel plans to pursue charges and an opportunity to show compliance with lawful requirements for the retention of their license.

If a settlement can be reached with parameters that are acceptable to the consultant who has seen the full file, then the Office of General Counsel will present a settlement to the licensing board to accept or reject. If a settlement is approved, the order becomes formal, public discipline. If the practitioner rejects, he, or she is entitled to a contested case before the board sitting with an administrative law judge. Any discipline issued by the board at the conclusion of such a trial becomes formal, public discipline.

# Results

The statistical outlier approach identified 163 practitioners consisting of medical doctors, osteopathic physicians, dentists, APRNs and physician assistants. There were no podiatrists identified as statistical outliers.

Twenty-one dentists were also identified as statistical outlier prescribers for their profession specifically. Of those 21 dentists, the Department of Health Office of Investigations has received a complaint against 15 and none of the complaints have been related to inappropriate prescribing. These complaints have been related to practice act violations separate from inappropriate prescribing.

Table 1

Statistical Outlier Report | 2019 Data

| | Total | MD | DO | APRN | PA |
|---|---|---|---|---|---|
| **Number of statistical outliers** | 142 | 57 | [illegible] | 63 | 12 |
| Never had a complaint | 57 | 15 | [illegible] | 34 | 5 |
| Overprescribing complaint | 56 | 24 | [illegible] | 22 | 7 |
| Received public discipline | 17 | 7 | [illegible] | 9 | 0 |
| Received private censure (letter) | 31 | 17 | [illegible] | 9 | 3 |
| **Percentage of those with a complaint who received discipline** | 86% | 100% | [illegible] | 82% | 43% |

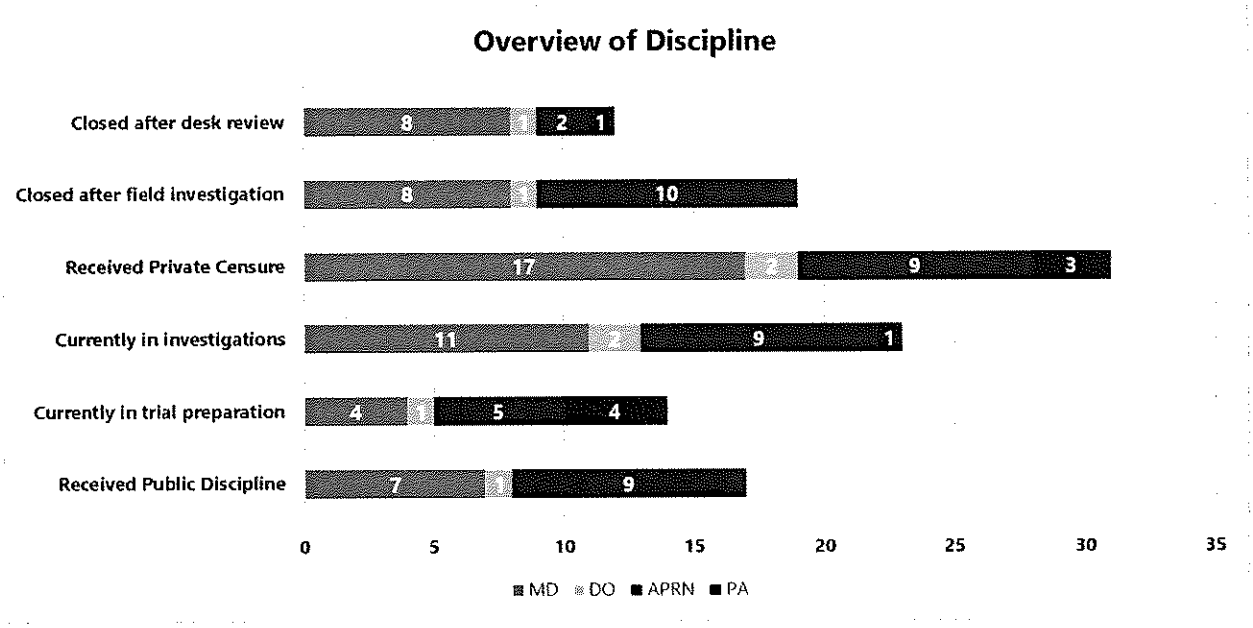
Of the 142 outlier prescribers identified who are medical doctors, osteopathic physicians, APRNs, and physician assistants, 56 have had a complaint against their license, for inappropriate or over-prescribing. Of the 17outliers listed above as having received public discipline, all have received formal board orders. Thirty-one outliers have received a private censure in the form of a letter of concern (LOC) or a letter of warning (LOW). Of the practitioners who received a complaint, 86% have either received public discipline or a private letter of concern or warning.

These numbers represent the disciplinary actions that have been taken against those providers who are on the statistical outlier list created by the Department. It does not take into account the total number of inappropriate prescribing actions taken by the boards. For example, in 2019, the Office of Investigations received 84 complaints regarding inappropriate prescribing, and the Office of General Counsel pursued and obtained public discipline against practitioners for inappropriate prescribing in 17 cases. Of those disciplinary orders against practitioners for inappropriate prescribing, six were revocations, surrenders, or suspensions

Of the 85 statistical outliers who received a complaint: 48 have received either a private censure or public discipline in the form of a board order or a practice prohibition; 14 are currently being pursued for public discipline by the Office of General Counsel and 23 are currently being investigated.

It is important to note that the number of dispositions listed here exceeds the number of statistical outliers who have received complaints. This is due to the fact that a practitioner can have multiple complaints that are disposed of in different fashions. For example, a practitioner could receive a letter of warning in response to a complaint, then subsequently be publicly disciplined after another complaint revealed a failure to alter his or her behavior. The numbers in this paragraph and the preceding chart represent the individual statistical outliers (prescribers), and each stage at which they have had a complaint disposed of in the review process, rather than the number of complaints that have been disposed of. It is possible for one outlier to have many complaints over time that are resolved in various stages.

Table 2




## Statistical Outliers Related to Inappropriate Prescribing Broken Down

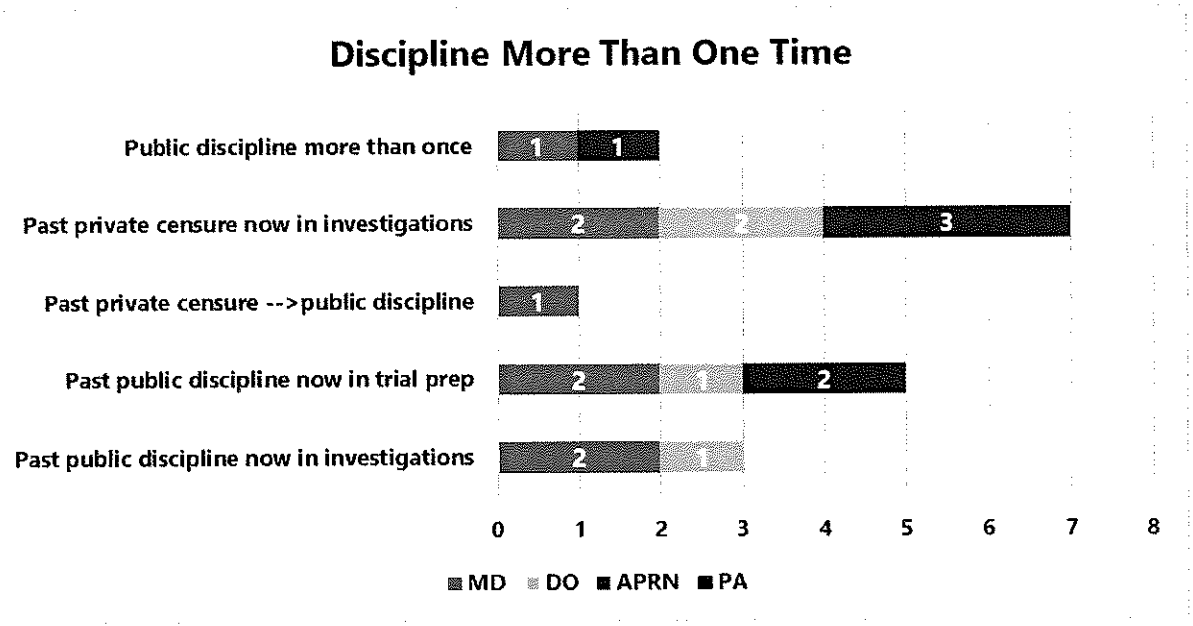
Of the 31 statistical outliers who have had a complaint closed, 19 were closed after a field investigation and 12 were closed after a desk review. All complaints are reviewed by the board consultant prior to a formal field investigation, which includes the controlled substances prescribed by the accused practitioner that are filled in Tennessee as reported on the Controlled Substance Monitoring Database (CSMD).

Cases closed as denoted above by "desk review" are those for which the consultant, after reviewing the information in the complaint and the CSMD, determines that no additional investigation is needed because either the complaint does not articulate a violation of the practice act or the information reviewed demonstrates that the complaint's allegations are not factually correct. There were 12 statistical outliers had complaints closed after such a review. There were 19 statistical outliers complaints closed after a review of the findings of a field investigation.

Those cases in which the consultant reviews the complaint,analyzes the CSMD information and determines that there could be evidence gathered supporting the claim are investigated further. An investigator for the boards conducts interviews, obtains a selection of patient charts created by the practitioner for patients to whom they have prescribed controlled substances, and obtains any other available documentation that the consultant and attorney believe could be relevant to the investigation.

The consultant and attorney review those investigative findings ,the practitioner's patient charts and make a determination whether a pracitioner has committed a practice act violation and whether there is sufficient evidence to prove the violation. The reviews of these 25 statistical outliers constitute a more robust review than the statitstical information that can be pulled from data, as the consultant can analyze determinations made by the practitioner for individual patients' needs.

Table 3




Two of the statistical outliers have received public discipline more than once. Seven of the practitioners were issued letters of warning or concern following a new complaint brought against their licenses after the initial letter of warning or concern was issued. One practitioner who was issued a letter of warning or concern subsequently received public discipline. Three practitioners who received public discipline have a new complaint that is either being investigated or pursued for public discipline by the Office of General Counsel.

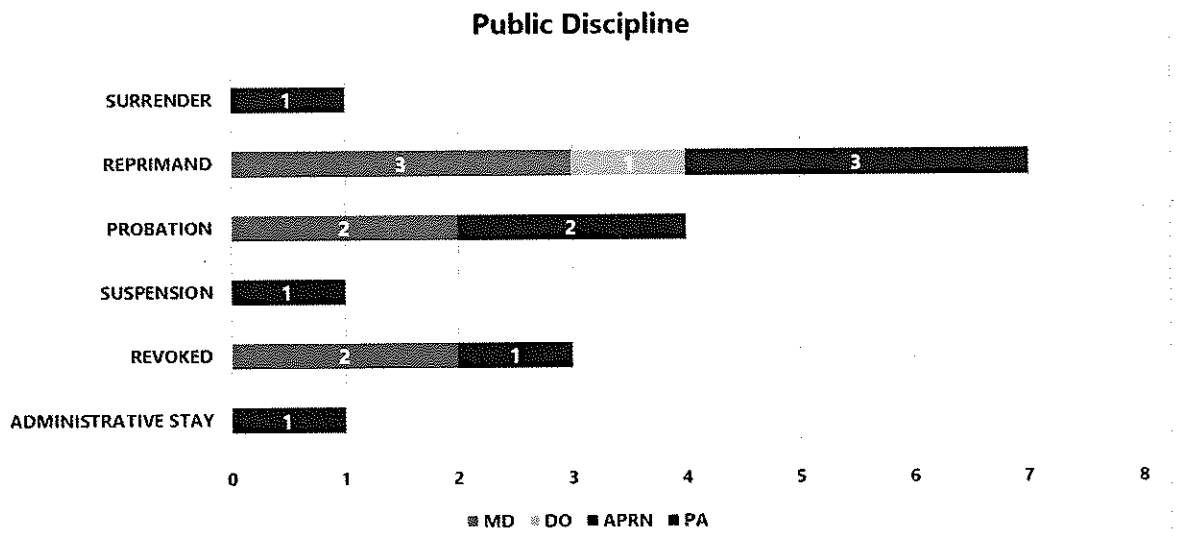
## Disciplinary Action Taken Against Statistical Outliers

The Department has taken 17 public disciplinary actions against those practitioners identified as statistical outliers. This includes three revocations, two of which were permanent revocations; one suspension; four orders for probation; and seven reprimands. Reprimand and probation often come with additional requirements and civil penalties.

These additional requirements commonly include mandates that the practitioner enroll in and complete extra prescribing or record-keeping coursework, retain practice monitors who review their work over a set period of time and report whether it is improving, and/or receive restrictions on prescribing practices which can include the surrender of the right to prescribe controlled substances. Some discipline referenced is associated with related conduct such as personal impairment. Fourteen statistical outliers are currently engaged in the disciplinary process with the Office of General Counsel.

After the pre-filing notice and opportunity to show compliance, if a settlement cannot be reached or has been rejected by the licensing board, cases will be reviewed by external experts in preparation for testimony offered at trial. As with any malpractice case there is a period of discovery when both sides can take depositions leading up to the trial. A contested case for this kind of malpractice can take several days to try and will be tried before the licensing board that licenses that practitioner.

Table 4



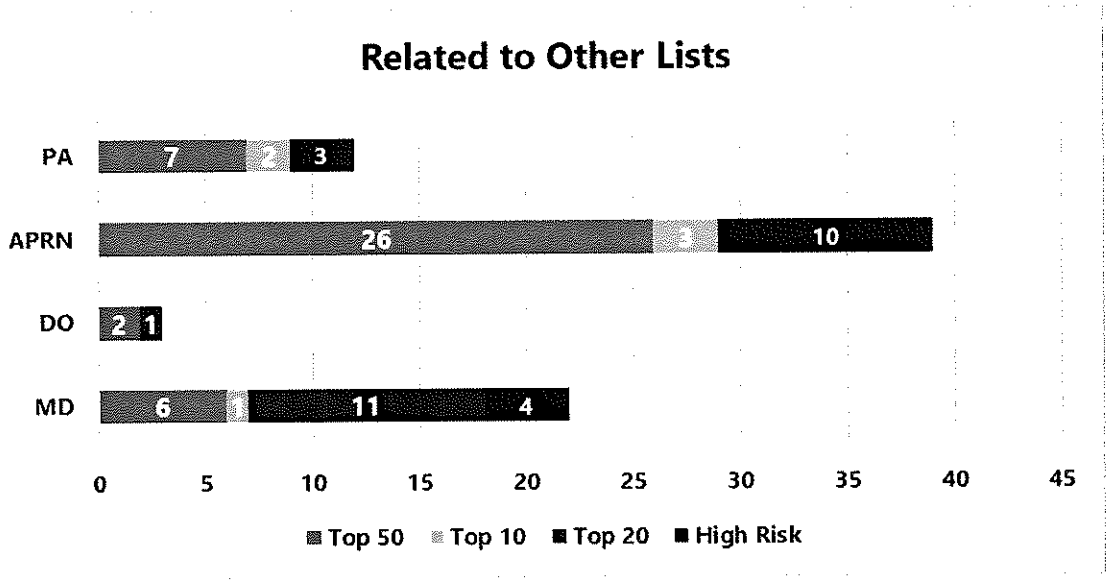
**Statistical Outliers Related to Other Department Collected Information:**

Tennessee Code Annotated § 68-1-128 requires the Department to query the CSMD data annually to determine the top 50 prescribers based upon total morphine milligram equivalents (MME) prescribed for the year. MME is a baseline measure that is used to determine the potency of each opioid. All opioids are "normalized" to the baseline of morphine to accurately express the potency of each dose of opioid. For example, hydrocodone has a one-to-one (1:1) potency compared to morphine, but oxycodone's potency is measured at a one-and-a- half to one (1.5:1) potency compared to morphine.

This means that oxycodone 10 mg is the same MME as 15 mg of hydrocodone. The Department is also annually required to look at the top 50 prescribers based on their total MME for one calendar year, the top 10 prescribers from counties under a certain population threshold based upon MME, the top 20 prescribers of buprenorphine that are reported to the CSMD, and high-risk prescribers based in part on opioid overdose deaths.

The Department has reviewed these lists compared to the statistical outliers and found the following number of statistical outliers are also on these lists. The top 50, 10, and 20 lists used for this comparison were based upon 2020 data, whereas the statistical outliers were selected based upon 2019 data.

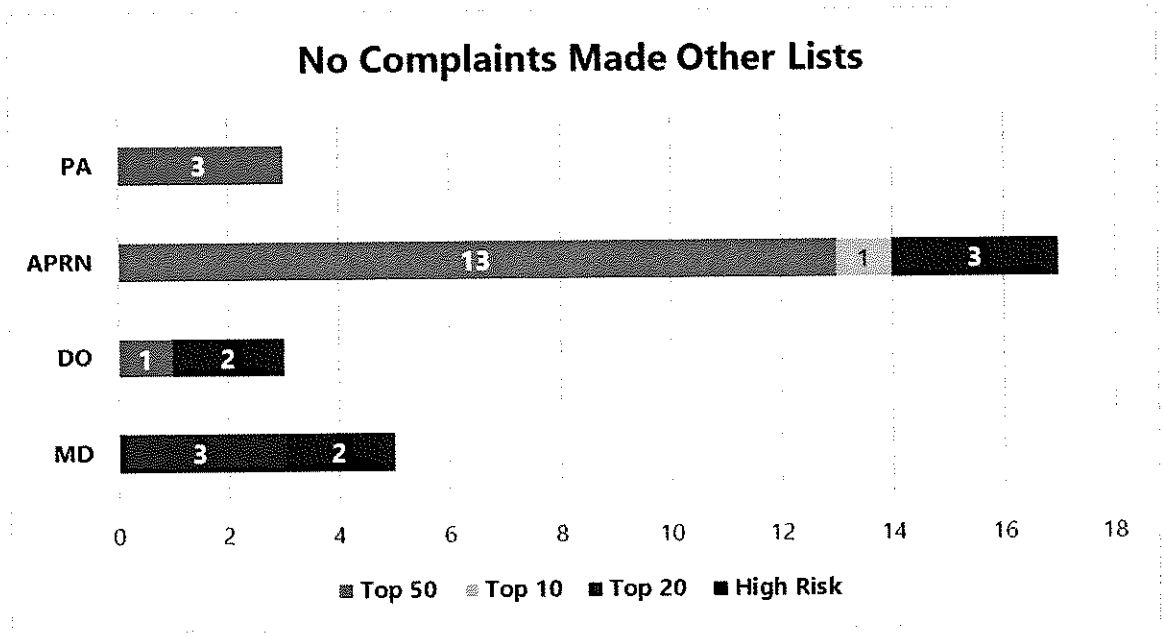
Table 5



**Statistical outliers with no complaint history, but appeared on: Top 50, Top 10, Top 20, or High-Risk Lists (2019)**

Of the fifty-seven statistical outliers who have never had a complaint brought against their licenses, seventeen were in the Top 50 for 2020, one was in the Top 10, and three were in the Top 20. Of the 142 statistical outliers who are medical doctors, osteopathic physicians, APRNs, or physician assistants, eighty-two were not on any of the top prescriber lists.

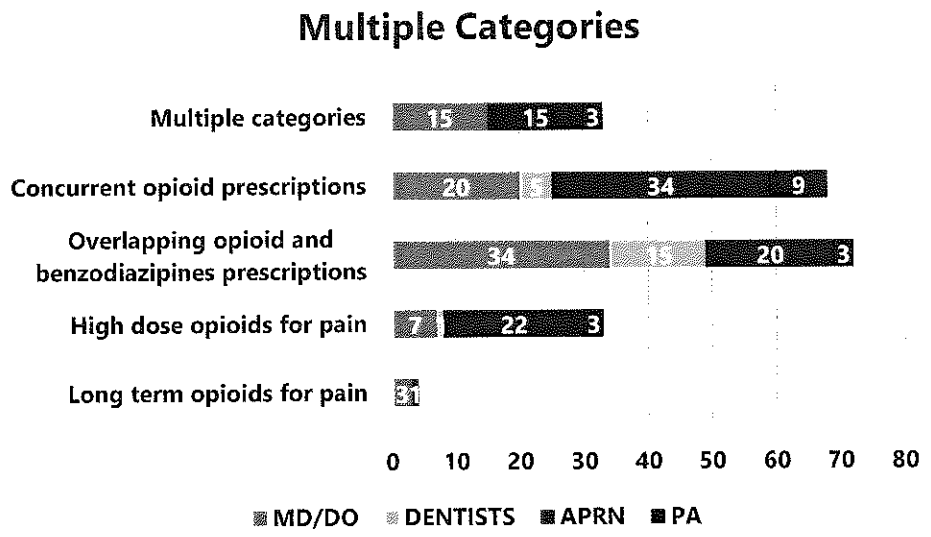
Table 6




**Medical doctors, osteopathic physicians, dentists, advanced practice registered nurses, and physician assistants who were found to be statistical outliers in each category or multiple categories**

Breaking out the five dimensions used to determine the statistical outlier prescribers demonstrates that the two dimensions most prescribers on this list fall into are overlapping opioid and benzodiazepine prescribing and concurrent opioid prescribing. The data also demonstrates that outlier physicians co-prescribe opioids and benzodiazepines more than outlier advanced practice registered nurses and outlier physician assistants, whereas outlier physicians and outlier advanced practice registered nurses prescribe concurrent opioid prescriptions more than outlier physician assistants.

Table 7




## Conclusion

In summary, the Statistical Outliers Report produced by the Department of Health includes an overview of data encompassing outliers among physicians, podiatrists, dentists, advanced practice registered nurses and physician assistants who prescribed opioids in 2019. The method of identifying outliers along five dimensions was nearly identical to the method described in the first report created by OREA. Since this is the second year to publish the Statistical Outliers Report for the legislature, the data collection is in infancy. Only two years of statistical outliers are used for comparison.

In comparing statistical outlier data from 2018 to 2019, the data shows a 21% increase in the number of physicians, podiatrists, dentists, advanced practice registered nurses and physician assistants who prescribed opioids. With this increase in prescribing, formal discipline for completed cases increased by 12%.

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